

DIVERSITY GAIN WITH A COMPACT ANTENNA**ABSTRACT OF THE DISCLOSURE**

A receiver chain (53) for use in a wireless communication system includes
5 a compact, highly correlated, multi-element antenna. The multiple antenna
elements (34) and (35) are configured to receive a signal from at least one base
station. The highly correlated signals output from the antenna elements (34 and
35) are optimally combined in a controller (55) using a set of weighting factors.
The set of weighting factors for each base station signal is determined in
10 response to the spatial signatures of the received signals.